

## Section 2-9: Problem Solving Skills: Find a Pattern

**By the end of this lesson, you should be able to answer:**

- How do you recognize and extend patterns to solve problems?

**Where you might see this in the real world:**

- Law enforcement, part-time job

Define the following terms:

1. Look for a pattern

2. Sequence

3. Term (of a pattern)

*Exercise:* Find the multiples of three that are between 40 and 65.

The above exercise is an example of knowing how to find a pattern. All you have to do is develop it. However there are many times where you need to figure out what pattern you are looking at. The question is: How do you do that?

Example 1: The sequence 7, 10, 13, 16, ... represents the number of seats in consecutive rows of a theatre. How many seats are there in the 10<sup>th</sup> row? The 50<sup>th</sup> row? Explain how you found your answer, including the "what" you did and "why" you did it.

Example 2: A machine in a factory sorts gumballs to be placed in bags. In the first bag, it placed 17 blue gumballs. In the next bag, it placed 25 blue gumballs. In the third bag, it placed 33 blue gumballs. It follows this pattern up to ten bags, then on the eleventh bag, it goes back to 17 blue gumballs. What is the total number of blue gumballs it needs for every grouping of ten consecutive bags? Explain how you found your answer, including the “what” you did and “why” you did it.

Homework:

“If you think you can win, you can win. Faith is necessary to victory.” - William Hazlitt